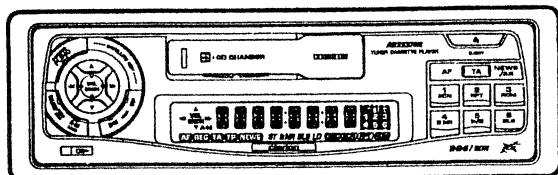


Service Manual



RDS-EON/FM-MPX/MW/LW
Radio Cassette Combination
With CD Changer Control

Model **ARX5370R**
(PE-1531E)

■ SPECIFICATIONS

Radio section

Tuning system: PLL synthesizer tuner

Frequency range:
FM: 87.5MHz to 108MHz
(0.05MHz steps)
MW: 531kHz to 1602kHz
(9kHz steps)
LW: 153kHz to 279kHz
(1kHz steps)

Tape section

Cassette type: Compact audio cassette
Playback system: Auto reversing 4-track, 2-channel
stereo cassette tape playback
(monaural playback also possible)
Frequency range: 20Hz to 20kHz(metal)
Wow & flutter(WRMS): 0.06%
Channel separation(1kHz): 45dB
Signal to noise ratio:
58dB(metal)
67dB(Dolby B NR, metal)

Power amplifier section

Maximum power output:
120W(30W×4ch)
Effective power output(1% THD):
14W×4

General

Power supply voltage:
DC14V(10.8V to 15.6V allowable)
negative ground
Power consumption:
Less than 10A
Speaker impedance:
4Ω(4Ω to 8Ω allowable)
Line output(with CD changer 1kHz, 10kHz):
1.8V
Auto antenna rated current:
0.5A or less
Dimensions(mm): 178(W)×50(H)×152(D)
Weight: 1.3kg

- ※ Specification and design are subject to change without notice for further improvement.
- ※ Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- ※ "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

COMPONENTS

PE-1531E-A

Main unit		1
Mounting bracket	300-9677-00	1
Parts bag		
Hook plate	331-0488-00	2
(alternative part	330-8216-01	2)
Cable tie	335-0833-07	1
Spacer	345-3653-01	1
Screw	716-0726-01	1
A-lead	850-6688-50	1
DCP case	335-5331-00	1

To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.

The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.

The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

2. Place the parts and wiring back in their original positions after replacement or re-wiring.

For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.

If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.

3. Check for safety after repair.

Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.

If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

4. Caution in removal and making wiring connection to the parts for the automobile.

Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

5. Cautions regarding chips.

Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.

6. Cautions in handling flexible PWB

Before working with a soldering iron, make sure that the iron tip temperature is around 270°C. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.

7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

ADJUSTMENT

FM section

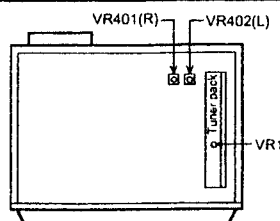
Item	Procedure	Measuring instrument
S-meter	1. Input the 98.1MHz/30dB μ (400Hz-MOD 30%) signal. 2. Turn on the power switch. and, Press the AF button and CH6 button at the same time. (TEST MODE) 3. Adjust the reading of LCD indicator to [30----00] (3.0V \pm 0.2V) by VR1.	SG

Tape section

Item	Procedure	Measuring instrument
Dolby level	1. Playback a Dolby level test tape (400Hz, 200nWb/m), and connect the milli-volt meter to TP1(R) and TP2(L). 2. Adjust VR401(R) and VR402(L) to obtain an output of 300mV \pm 1dB. (Dolby SW: OFF)	Milli-volt meter Test tape

Adjustment point

(Top side of main unit)



■ TROUBLESHOOTING

Problem	Cause	Measure
Power does not turn on. (or no sound is produced.)	Fuse is blown.	Replace with a fuse of the same amperage as the old fuse.
	Connections are improper.	Read the attached "installation/wire connection guide" once again and wire properly.
Sound quality is poor.	Playback head is dirty.	Use a cleaning tape, etc. to clean the head.
No sound while unit can be operated.	Power ANT lead is shorted to the ground.	Turn the unit off, first. Remove all connecting wires from the power ANT lead, and turn the unit on, then re-connect a wire one by one to the power ANT lead. When sound is muted again, check the unit with a wire connected last.

This unit is equipped with a number of self-diagnosis functions to protect the system. If a problem should occur, the user is warned through various error displays. Eliminate the problem using the procedures shown below.

Error display	Procedure
Er 2	This indicates that a problem has occurred with the CD changer's mechanism (disc cannot be changed or ejected, etc.) →The CD changer mechanism is likely damaged.
Er 3	This indicates that the pickup is out of focus during playback due to scratches on the disc, etc.
Er 6	This indicates that the CD's TOC (table of contents) cannot be read, for example because the selected disc is upside-down.
Er 8	This is displayed if a cassette tape gets stuck during loading or ejecting. →Remove the cause for which the cassette tape got stuck.

If a display other than one of the displays above appears, press the reset button.

EXPLANATION OF IC

μPD178006GC-513-3B9

052-1906-00

System Controller

Outward Form

80 pins, plastic QFP

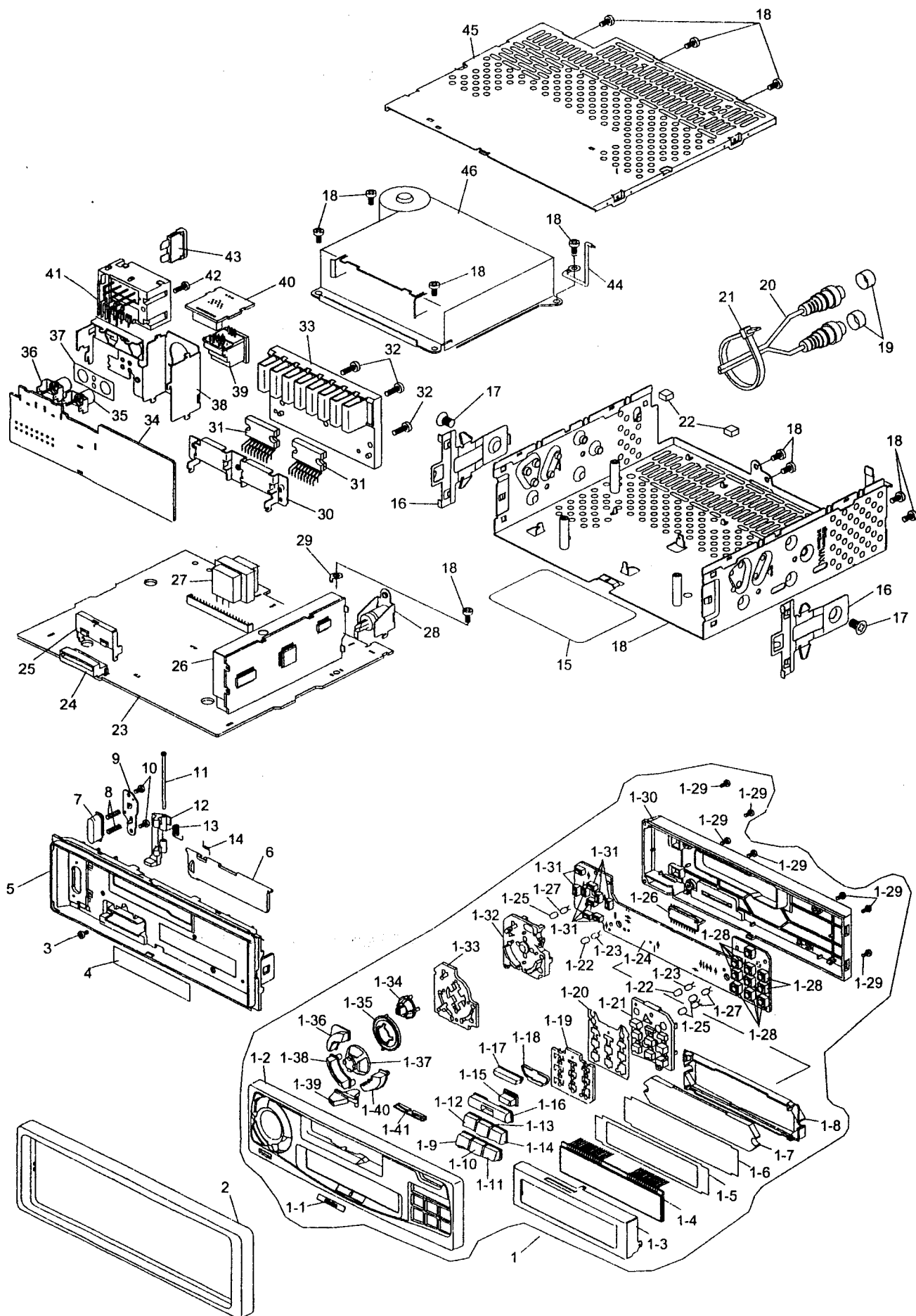
Terminal Description

No.	Symbol	I/O	Function
1	KEY AD	I	FUNC/EJECT/DCP detection terminal
2	RDS S METER	I	RDS S METER detection terminal
3	RDS NOISE I	I	RDS NOISE detection terminal
4	N.C.	I	Not in use
5	VOL DO	O	Serial data communication line to electronic volume IC
6	VOL CLK	O	
7	LCD SI	I	
8	LCD SO	O	
9	LCD SCK	O	Serial data communication line to LCD drive IC
10	LCD CE	O	
11	N.C.	I	Not in use
12	C-BUS SI	I	C-BUS data communication line
13	C-BUS SO	O	
14	C-BUS SCK	O	
15	NOISE DISCHG	O	NOISE OFF
16	PLL CLK	O	PLL CLK
17	PLL DI	O	PLL DI
18	FM SD	I	FM SD input
19	ST IND	I	"LOW" in FM STEREO
20	N.C.	I	Not in use
21	GND	-	GND
22	VDD	-	VDD
23	AM SD	I	AM SD input terminal
24	N.C.	I	Not in use
25	N.C.	I	
26	N.C.	I	
27	PLL DO	I	PLL DO
28	AM IF CNT	I	Not in use
29	FM IF CNT	I	
30	VDD	-	VDD
31	FM OSC	I	FM VCO input terminal
32	AM OSC	I	AM VCO input terminal
33	GND	-	GND
34	FM EO	O	Not in use
35	AM EO	O	
36	VDD	-	VDD
37	PLL CE	O	PLL CE
38	RDS DX/LO	O	Not in use
39	IF REQ	O	"HI" output in SEEK
40	AM DX/I.O	O	AM DX/LOCAL output terminal, "HI" in LOCAL
41	RDS MUTE	O	MUTE output terminal for RDS
42	BLINK LED	O	BLINKING LED output terminal
43	SRQ	I	ACTIVE="LOW"
44	ACC CONT	O	ACC ON="HI", ACC OFF="LOW"
45	RDS +B	O	RDS +B
46	FM DX/LO	O	FM DX/LO output terminal, "LOW" in LOCAL
47	REM +S	O	PULL UP, LCD DRV power supply CONTROL terminal
48	REM +B	O	AUDIO system CONTROL, power supply terminal
49	N.C.	I	Not in use
50	N.C.	I	
51	PHONT INT	I	"HI" while using TEL
52	MECH ON	O	MECHANISM ON SIGNAL

No.	Symbol	I/O	Function
53	P 1	O	MECH MOTOR inverse CONTROL
54	P 2	O	
55	MECH MOTOR	O	MOTOR ON SIGNAL
56	MTL SW	I	METAL TAPE "HI" (GND)
57	BIT 3	I	Input of cassette tape pack position detection signal
58	BIT 1		
59	BIT 2		
60	REEL PULS	I	Input of tape reel running pulse
61	TAPE IN	I	"HI" in TAPE IN
62	APC SENS	O	"LOW" in PLAY, "HI" in FF/REW
63	APC DET	I	"HI" in intermission between music, "LOW" in music
64	MTL ON	O	"HI" in METAL TAPE (OPEN)
65	FWD/REV	I	"LOW" in FWD, "HI" in REV
66	RDS DATA	I	RDS DATA input terminal
67	RDS CLK	I	RDS CLOCK input terminal
68	B/U DET	I	B/U detection terminal
69	ACC IN	I	CC detection terminal
70	KEY INT	I	TO I PIN
71	DOLBY ON	O	DOLBY ON SIGNAL
72	SYS MUTE	O	MUTE output, MUTE ON in "HI"
73	N.C.	I	Not in use
74	CPUREG	-	VDD
75	GND	-	GND
76	XOUT	O	Connected to quartz
77	XIN	I	
78	OSC REG	-	VDD
79	VDD		
80	RESET		

■ EXPLODED VIEW

Main section



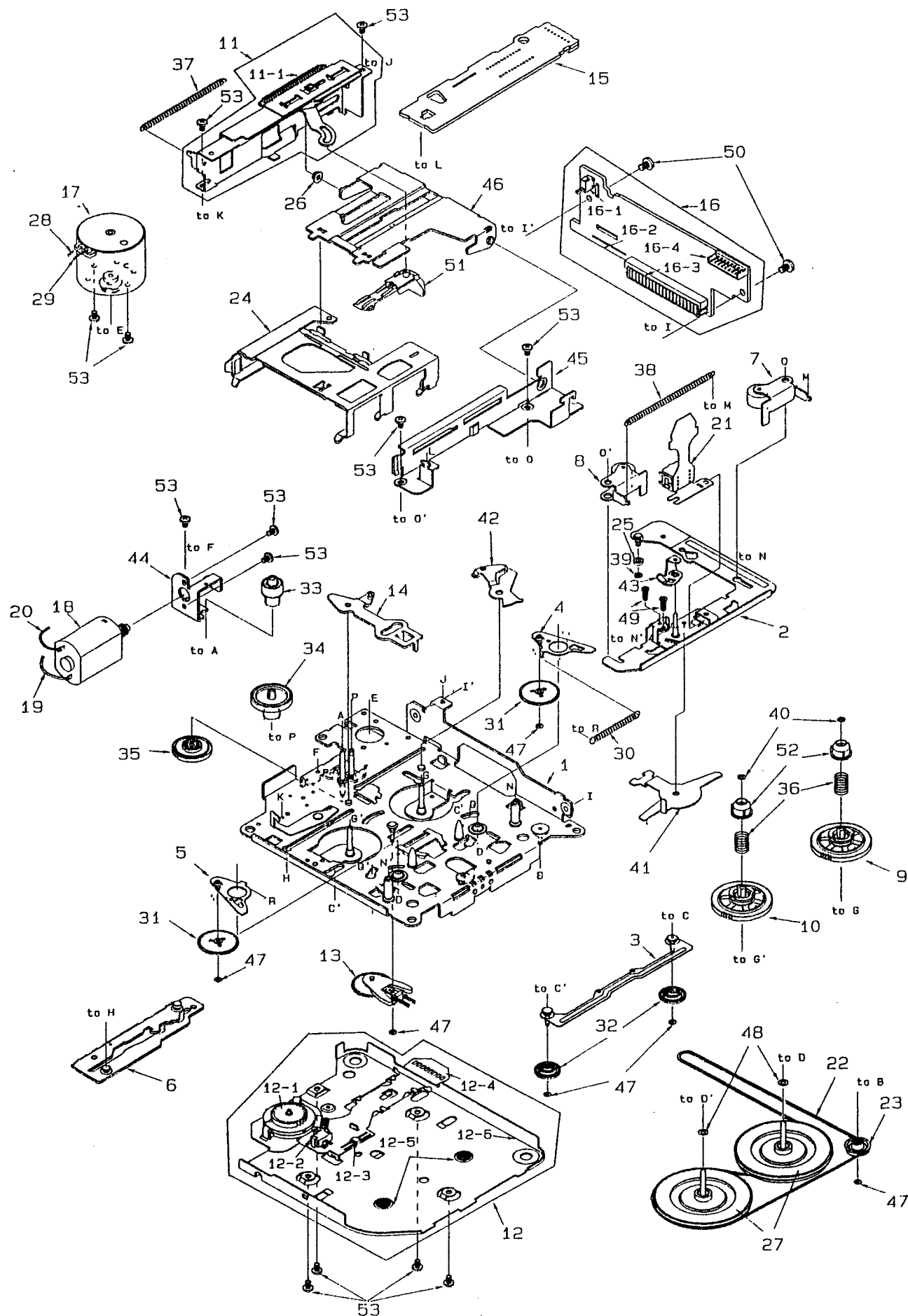
■PARTS LIST

Main section

NO.	PART NO.	DESCRIPTION	Q'TY	NO.	PART NO.	DESCRIPTION	Q'TY
1	940-1790A	DCP ASS'Y	1	4	291-0067-00	STICKER	1
1-1	378-0134-00	BADGE	1	5	370-5653-00	INNER ESCUTCHEON	1
1-2	370-5643-00	ESCUTCHEON	1	6	320-0526-26	DUSTPROOF COVER	1
1-3	331-1999-00	LCD COVER	1	7	382-4078-00	BUTTON (PUSH-OUT)	1
1-4	379-1074-41	INDICATION	1	8	750-3173-00	SPRING (PUSH-OUT)	2
1-5	347-5366-00	FILM	1	9	331-0588-20	HOOK PLATE	1
1-6	347-5365-00	FILM	1	10	716-0778-00	WAVE SCREW	2
1-7	335-5308-00	LCD ILLUMINATION PLATE	1	11	341-1627-00	SHAFT	1
1-8	335-5309-00	LCD HOLDER	1	12	335-5312-00	HOOK	1
1-9	382-4421-23	BUTTON (4/B NR)	1	13	750-3219-00	SPRING (HOOK)	1
1-10	382-4422-21	BUTTON (5/>II)	1	14	750-3217-00	SPRING (DOOR)	1
1-11	382-4423-23	BUTTON (6/BLS)	1	15	286-8674-00	SET PLATE	1
1-12	382-4418-21	BUTTON (1/SCN)	1	16	750-3137-00	SPRING	2
1-13	382-4419-21	BUTTON (2/RPT)	1	17	714-5008-41	MACHINE SCREW (M5X8)	2
1-14	382-4420-21	BUTTON (3/RDM)	1	18	714-3005-80	MACHINE SCREW (M3X5)	12
1-15	382-4413-20	BUTTON (TA)	1	19	345-7584-00	SLEEVE	2
1-16	382-4414-20	BUTTON (AF/NEWS)	1	20	855-8000-13	RCA LEAD	1
1-17	382-4468-00	BUTTON (EJECT)	1	21	335-0833-07	CABLE TIE	1
1-18	335-5301-00	BUTTON HOLDER	1	22	345-7560-00	RUBBER PART	2
1-19	345-7818-00	SPONGE (L)	1	23	039-0845-00	MAIN PWB	1
1-20	347-5402-00	SHADE (R)	1	24	074-1112-00	DCP CONNECTOR	1
1-21	335-5307-00	ILLUMINATION PLATE (L)	1	25	331-0606-00	CONNECTOR BRACKET	1
1-22	345-4441-81	LAMP CAP (YELLOW)	2	26	880-2080A	TUNER	1
1-23	017-0441-00	PILOT LAMP (9V 85mA)	2	27	009-9006-50	CHOKE	1
1-24	039-0847-00	SW PWB	1	28	092-9000-01	ANTENNA RECEPTACLE	1
1-25	345-4441-37	LAMP CAP (BLUE)	3	29	331-0643-00	EARTH PLATE	1
1-26	076-0522-00	DCP CONNECTOR	1	30	331-0613-00	IC HOLDER	1
1-27	017-0444-00	PILOT LAMP (14V 50mA)	3	31	051-2009-00	POWER IC (TDA8561Q)	2
1-28	013-6002-50	TACT SWITCH	10	32	714-3010-80	MACHINE SCREW (M3X10)	3
1-29	716-1721-00	P-TIGHT SCREW	7	33	313-1616-00	HEAT SINK	1
1-30	335-5294-00	REAR COVER	1	34	039-0841-00	CONNECTOR PWB	1
1-31	013-3812-11	TACT SWITCH	9	35	075-9003-00	RCA JACK (WHITE)	1
1-32	335-5304-00	ILLUMINATION PLATE (R)	1	36	075-9004-00	RCA JACK (RED)	1
1-33	345-7815-00	SPONGE (R)	1	37	347-5100-00	SPACER (RCA)	1
1-34	335-5298-00	JOG ARM	1	38	331-1856-20	CONNECTOR HOLDER	1
1-35	335-5297-00	JOG PLATE	1	39	074-1022-01	CONNECTOR (13P)	1
1-36	382-4393-20	BUTTON (FUNC/POWER)	1	40	039-0428-00	C-BUS PWB	1
1-37	380-5394-20	BUTTON (VOL)	1	41	074-1115-10	ISO CONNECTOR	1
1-38	382-4394-22	BUTTON (BAND/A-M)	1	42	714-2610-10	MACHINE SCREW (M2.6X10)	1
1-39	382-4470-00	BUTTON (RELEASE)	1	43	060-0057-56	AUTO FUSE (10A)	1
1-40	382-4396-21	BUTTON (UP/DOWN)	1	44	850-6688-50	A-LEAD	1
1-41	335-4874-00	ILLUMINATION PLATE	1	45	310-1571-00	UPPER CASE	1
2	370-5656-02	OUTER ESCUTCHEON	1	46	930-0738-81	TAPE MECHANISM	1
3	714-2004-19	MACHINE SCREW (M2X4)	1				

EXPLODED VIEW

Tape mechanism section : 930-0738-81



■ PARTS LIST

Tape mechanism section : 930-0738-81

NO.	PART NO.	DESCRIPTION	Q'TY	NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4294-21	DECK PLATE ASS'Y	1	22	602-0118-00	BELT	1
2	960-4261-05	HEAD PLATE ASS'Y	1	23	604-0046-00	TENSION PULLEY	1
3	960-4262-20	FF/REW-P-ASS'Y	1	24	606-0093-06	PACK GUIDE	1
4	960-4263-03	IDOLER-P-ASS'Y F	1	25	610-0342-01	HEAD-P-ROLLER	1
5	960-4264-03	IDOLER-P-ASS'Y R	1	26	610-0343-00	GUIDE-A-ROLLER	1
6	960-4266-20	MODE PLATE ASS'Y	1	27	611-0091-03	FLYWHEEL	2
7	960-4269-05	ROLLER ASS'Y F	1	28	802-4909-60	VINYL COAT WIRE(RED)	1
8	960-4270-05	ROLLER ASS'Y R	1	29	800-4909-60	VINYL COAT WIRE(BLK)	1
9	960-4348-02	REEL ASS'Y F	1	30	750-3017-02	IDOLER-P-SPRING	1
10	960-4349-02	REEL ASS'Y R	1	31	613-0285-02	IDOLER GEAR	2
11	960-4389-03	EJECT SUB ASS'Y	1	32	613-0286-02	FF/REW GEAR	2
11-1	750-3020-01	SW-PLATE SPRING	1	33	613-0288-01	HELICAL GEAR	1
12	960-4338-07	BOTTOM SUB ASS'Y	1	34	613-0289-01	GEAR A	1
12-1	013-3951-11	SWITCH	1	35	613-0337-00	POWER GEAR	1
12-2	013-3953-01	SWITCH	1	36	750-2949-00	SLIDE SPRING	2
12-3	051-1776-00	IC	1	37	750-2947-04	EJECT-P-SPRING	1
12-4	099-9926-01	FLEXIBLE PWB	1	38	750-2946-02	PINCH SPRING	1
12-5	746-0767-00	WASHER	2	39	746-0762-00	WASHER	1
12-6	960-4295-02	BOTTOM PLATE ASS'Y	1	40	746-0761-00	WASHER(φ 1.6)	2
13	960-4282-06	DETECT SUB ASS'Y	1	41	630-2597-01	CHANGE LINK	1
14	960-4301-02	PLAY LINK ASS'Y	1	42	630-2598-05	EJECT LINK	1
15	039-0053-00	SIDE PWB	1	43	630-2600-01	ADJUST LINK	1
15-1	074-0881-08	OUTLET SOCKET(8P)	1	44	630-2601-02	MOTOR PLATE	1
16	990-0709-01	REAR PWB ASS'Y	1	45	630-2626-04	PWB FRAME	1
16-1	013-3906-00	SWITCH	1	46	630-2642-01	GUIDE ARM	1
16-2	039-0368-00	REAR PWB	1	47	746-0724-00	WASHER(φ 1.1)	6
16-3	074-0978-20	OUTLET SOCKET	1	48	746-0624-00	WASHER(φ 2.1)	2
16-4	076-0353-08	PLUG	1	49	716-0833-10	AZIMUTH SCREW	2
17	SMA-153-100	MAIN MOTOR ASS'Y	1	50	716-0761-01	PWB SCREW	2
18	SMA-131-100	POWER MOTOR ASS'Y	1	51	631-1992-02	PACK STOPPER	1
19	816-2349-00	VINYL COAT WIRE(WHT)	1	52	631-1993-01	SLIDE BUSH	2
20	816-2304-00	VINYL COAT WIRE(BLU)	1	53	716-0484-00	SCREW(M2X2.5)	13
21	011-0307-28	HEAD	1				

■ ELECTRICAL PARTS LIST

Tape mechanism section

Note) Several different parts of the same reference number are alternative parts.

One of those parts is used in the set.

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 1	175-3311-00	330pF CH	C 14	183-2263-31	16V22 μF	R 9	117-1531-10	1/10W 15kΩ
C 2	175-3311-00	330pF CH	C 15	183-4753-51	35V4.7 μF	R 10	117-1531-10	1/10W 15kΩ
C 3	175-3311-00	330pF CH	C 16	183-4753-51	35V4.7 μF	R 11	117-1131-10	1/10W 11kΩ
C 4	175-3311-00	330pF CH	IC 1	051-1546-10	BA3430S	R 12	117-3341-10	1/10W 330kΩ
C 5	183-4763-11	6.3V47 μF	IC 2	051-1776-00	NJL5801K	R 13	117-1811-10	1/10W 180Ω
C 6	042-0552-02	10V68 μF	R 1	111-1241-91	1/4WS 120kΩ	R 14	117-8211-10	1/10W 820Ω
C 7	042-0552-02	10V68 μF	R 2	111-1241-91	1/4WS 120kΩ	R 15	116-2231-10	1/8W 22kΩ
C 8	173-1231-10	0.012 μF	R 3	111-1241-91	1/4WS 120kΩ	R 16	117-1031-10	1/10W 10kΩ
C 9	173-1231-10	0.012 μF	R 4	111-1241-91	1/4WS 120kΩ	R 17	117-1031-10	1/10W 10kΩ
C 10	183-4753-51	35V4.7 μF	R 5	116-1011-10	1/8W 100Ω	R 18	111-5611-91	1/4WS 560Ω
C 11	183-1043-61	50V0.1 μF	R 6	116-1011-10	1/8W 100Ω	SW 1	013-3906-00	3PPB51
C 12	175-5611-00	560pF CH	R 7	117-3341-10	1/10W 330kΩ	SW 2	013-3953-01	
C 13	183-4743-61	50V0.47 μF	R 8	117-1131-10	1/10W 11kΩ	SW 3	013-3951-10	

SW PWB section

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 101	178-1822-05	1800pF	R 103	117-2221-10	1/10W 2.2k Ω	S 109	013-6002-50	
C 102	178-4735-06	0.047 μ F	R 104	117-6831-10	1/10W 68k Ω	S 110	013-3812-11	
C 103	178-4735-06	0.047 μ F	R 105	117-1031-10	1/10W 10k Ω	S 111	013-3812-11	
C 104	178-4735-06	0.047 μ F	R 106	117-1241-10	1/10W 120k Ω	S 112	013-3812-11	
CN 101	076-0522-00		R 107	117-3921-10	1/10W 3.9k Ω	S 113	013-6002-50	
IC 101	051-6013-00	LC75854W	S 101	013-6002-50		S 114	013-6002-50	
PL 101	017-0441-00	9V 85mA	S 102	013-6002-50		S 115	013-3812-11	
PL 102	017-0441-00	9V 85mA	S 103	013-3812-11		S 116	013-6002-50	
PL 103	017-0444-00	14V 50mA	S 104	013-6002-50		S 117	013-3812-11	
PL 104	017-0444-00	14V 50mA	S 105	013-6002-50		S 118	013-3812-11	
PL 105	017-0444-00	14V 50mA	S 106	013-3812-11		S 119	013-6002-50	
R 101	117-2221-10	1/10W 2.2k Ω	S 107	013-3812-11				
R 102	117-2221-10	1/10W 2.2k Ω	S 108	013-6002-50				

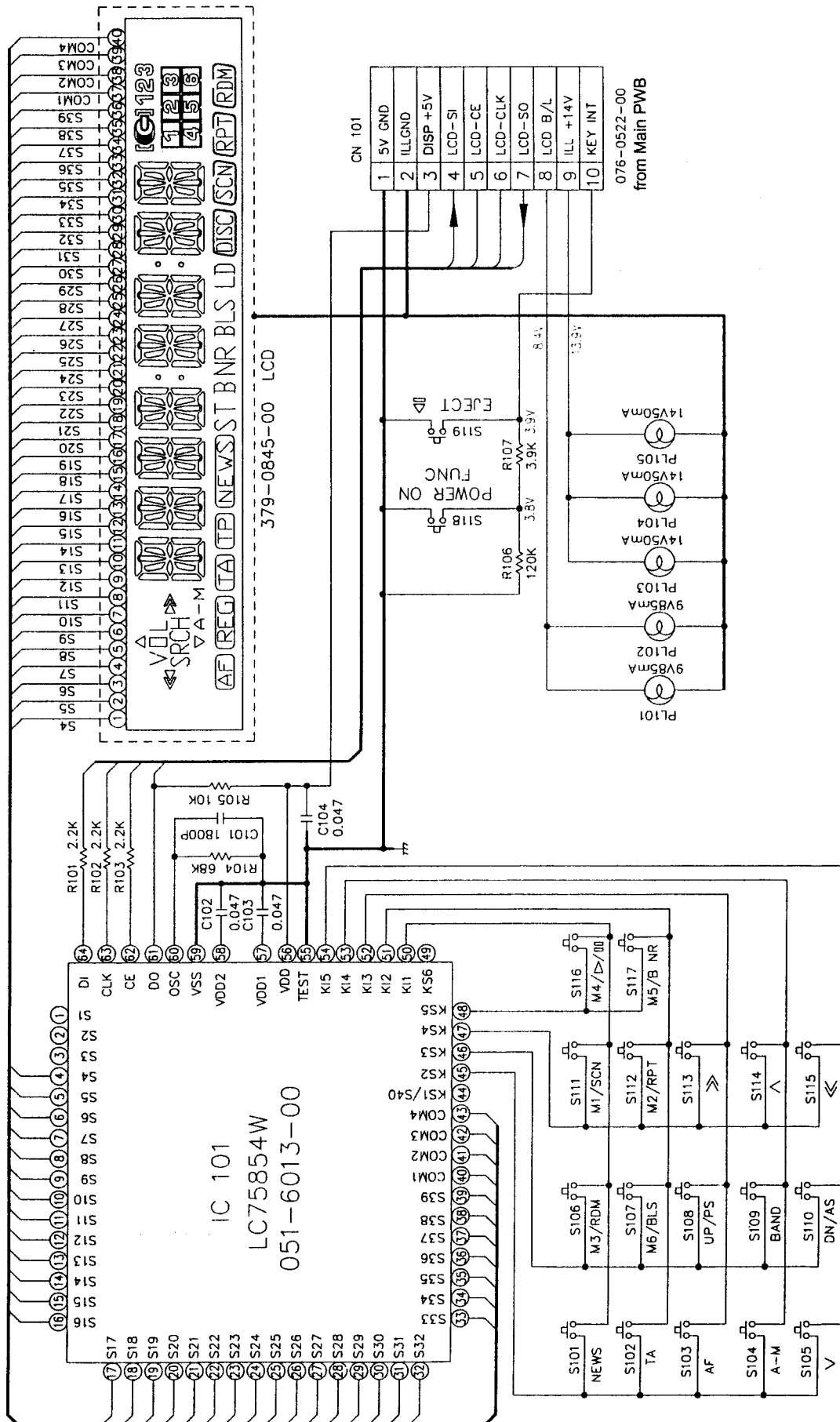
Main PWB section

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 101	174-1800-13	18pF	C 402	182-2253-63	50V2.2 μ F	C 801	173-1042-10	0.1 μ F
C 102	178-1032-05	0.01 μ F	C 403	042-9003-00	10V100 μ F	C 802	042-9002-00	50V0.47 μ F
C 103	178-1032-05	0.01 μ F	C 404	182-1053-63	50V1 μ F	C 803	042-9002-00	50V0.47 μ F
C 104	184-1073-22	10V100 μ F	C 405	178-1022-05	1000pF	C 804	042-9002-00	50V0.47 μ F
C 105	178-1022-05	1000pF	C 406	182-1063-33	16V10 μ F	C 805	042-9002-00	50V0.47 μ F
C 106	178-1022-05	1000pF	C 407	182-2243-63	50V0.22 μ F	C 806	042-0447-00	16V2200 μ F
C 106	180-1053-63	50V1 μ F	C 408	182-2243-63	50V0.22 μ F	C 807	183-1063-31	16V10 μ F
C 107	178-2732-05	0.027 μ F	C 409	182-2253-63	50V2.2 μ F	C 808	183-1063-31	16V10 μ F
C 108	178-2732-05	0.027 μ F	C 410	182-2253-63	50V2.2 μ F	C 809	183-1063-31	16V10 μ F
C 109	178-1522-05	1500pF	C 501	178-1032-05	0.01 μ F	C 810	183-1063-31	16V10 μ F
C 110	178-1032-05	0.01 μ F	C 502	176-2201-00	22pF CH	C 811	178-1022-05	1000pF
C 111	178-6822-05	6800pF	C 503	178-1032-05	0.01 μ F	C 812	178-2232-05	0.022 μ F
C 112	178-1032-05	0.01 μ F	C 504	182-4763-23	10V47 μ F	CN 101	074-1112-00	
C 113	178-1032-05	0.01 μ F	C 505	177-4732-05	0.047 μ F	CN 102	075-9003-00	
C 114	184-2273-22	10V220 μ F	C 506	178-1032-05	0.01 μ F	CN 103	075-9004-00	
C 115	178-1222-05	1200pF	C 507	042-9003-00	10V100 μ F	CN 104	074-1112-00	
C 116	178-8222-05	8200pF	C 508	178-1032-05	0.01 μ F	CN 105	076-9000-09	
C 117	183-3343-61	50V0.33 μ F	C 509	178-4732-05	0.047 μ F	CN 106	076-9000-03	
C 118	178-1032-05	0.01 μ F	C 601	183-2253-61	50V2.2 μ F	CN 107	076-0433-20	
C 201	176-3311-00	330pF	C 602	184-1073-22	10V100 μ F	CN 108	074-1022-01	
C 202	176-3311-00	330pF	C 603	171-1032-06	0.01 μ FKY5R	D 101	001-0376-69	MTZ18JB
C 203	176-8201-00	82pF CH	C 604	180-1063-53	16V10 μ F	D 102	001-0330-00	1SS119
C 204	176-4701-00	47pF CH	C 605	182-4763-23	10V47 μ F	D 103	001-0330-00	1SS119
C 205	178-1042-05	0.1 μ F	C 606	182-1063-33	16V10 μ F	D 104	001-0376-69	MTZ18JB
C 206	183-2253-61	50V2.2 μ F	C 607	171-1032-06	0.01 μ FKY5R	D 201	001-0330-00	1SS119
C 207	183-1063-31	16V10 μ F	C 608	178-1032-05	0.01 μ F	D 202	001-0330-00	1SS119
C 208	176-5611-00	560pF	C 610	171-1032-06	0.01 μ FKY5R	D 301	001-0376-45	MTZJ8.2C
C 209	176-5611-00	560pF	C 701	182-1063-33	16V10 μ F	D 302	001-0330-00	1SS119
C 210	176-5611-00	560pF	C 702	183-2253-61	50V2.2 μ F	D 501	001-0330-00	1SS119
C 211	178-2232-05	0.022 μ F	C 703	178-4732-05	0.047 μ F	D 502	001-7800-00	SDL-3N2P-L
C 212	178-2232-05	0.022 μ F	C 704	183-2253-61	50V2.2 μ F	D 503	001-0330-00	1SS119
C 213	178-1032-05	0.01 μ F	C 705	182-1063-33	16V10 μ F	D 504	001-0330-00	1SS119
C 214	177-3312-05	330pF	C 706	042-9003-00	10V100 μ F	D 601	001-0376-33	MTZJ5.6C
C 215	178-1042-05	0.1 μ F	C 707	174-5600-13	56pF	D 602	001-0330-00	1SS119
C 216	182-4743-63	50V0.47 μ F	C 708	176-1511-00	150pF CH	D 603	001-0330-00	1SS119
C 217	176-2701-00	27pF	C 709	182-4753-63	50V4.7 μ F	D 604	001-0376-48	MTZJ9.1C
C 218	176-2701-00	27pF	C 710	178-8232-05	0.082 μ F	D 605	001-0376-48	MTZJ9.1C
C 219	183-2253-61	50V2.2 μ F	C 711	182-2253-63	50V2.2 μ F	D 606	001-0376-36	MTZJ6.2C
C 220	176-1011-00	100pF CH	C 712	182-2263-33	16V22 μ F	D 607	001-0330-00	1SS119
C 221	176-1011-00	100pF CH	C 713	178-5622-05	5600pF	D 608	001-0376-45	MTZJ8.2C
C 222	176-1011-00	100pF CH	C 714	178-5632-05	0.056 μ F	D 609	001-0330-00	1SS119
C 223	176-1011-00	100pF CH	C 715	178-5622-05	5600pF	D 610	001-0330-00	1SS119
C 224	178-1032-05	0.01 μ F	C 716	182-1063-33	16V10 μ F	D 611	001-0466-00	S5688B
C 225	183-4763-11	6.3V47 μ F	C 717	174-5600-13	56pF	D 612	001-0330-00	1SS119
C 301	177-1042-05	0.1 μ F	C 718	176-1511-00	150pF CH	D 613	001-0330-00	1SS119
C 302	177-1022-05	1000pF	C 719	182-4753-63	50V4.7 μ F	D 701	001-0376-23	MTZ4.3JB
C 303	182-1073-33	16V100 μ F	C 720	178-8232-05	0.082 μ F	D 801	001-0376-29	MTZJ5.1B
C 304	177-1022-05	1000pF	C 721	182-2253-63	50V2.2 μ F	D 802	001-0330-00	1SS119
C 305	177-1022-05	1000pF	C 722	182-2263-33	16V22 μ F	D 803	001-0188-01	1S1885A
C 306	178-1022-05	1000pF	C 723	178-5622-05	5600pF	IC 201	051-1819-00	SAA6579T
C 307	178-1022-05	1000pF	C 724	178-5632-05	0.056 μ F	IC 202	051-0350-55	NJM4558M
C 308	178-1022-05	1000pF	C 725	178-5622-05	5600pF	IC 203	051-6201-00	LC72146M
C 309	178-1022-05	1000pF	C 726	182-1063-33	16V10 μ F	IC 301	051-1014-10	TA7291S
C 401	182-2253-63	50V2.2 μ F	C 727	182-4763-23	10V47 μ F	IC 401	051-1349-10	HA12134AF

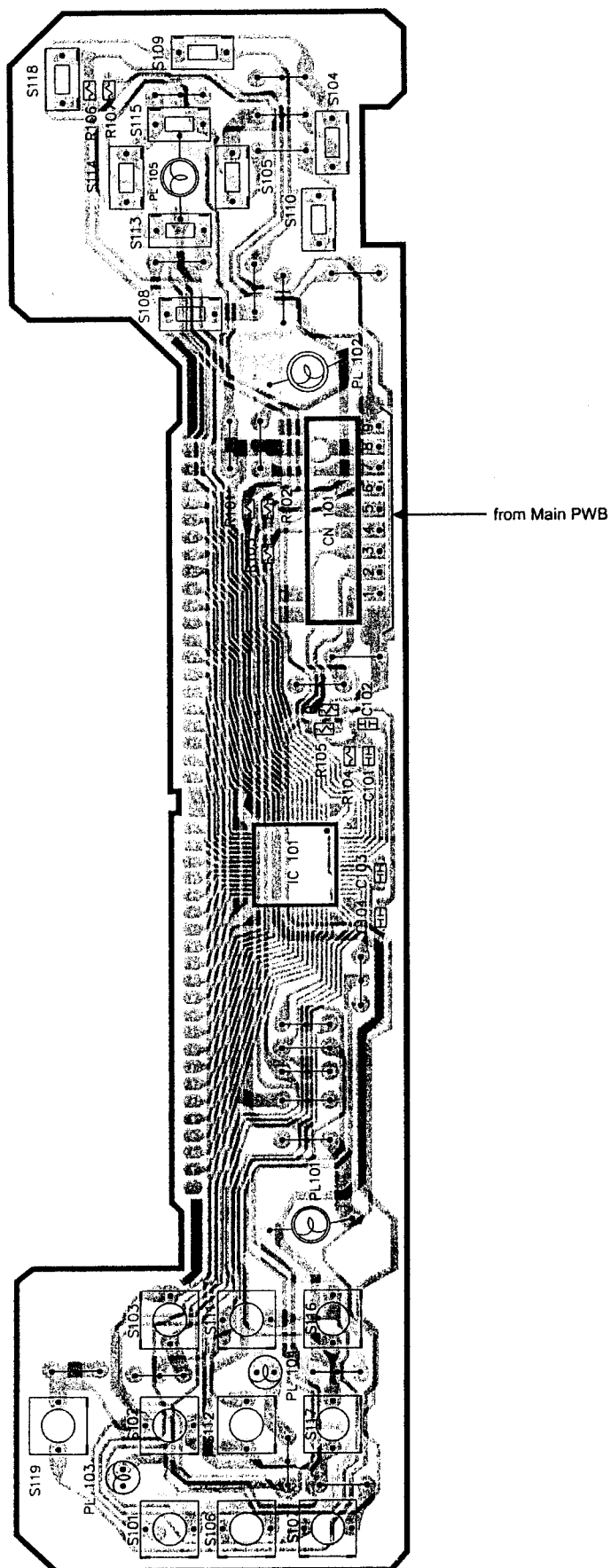
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IC 501	052-1906-00	μ PD178006GC-513-3B9	R 114	111-2221-91	1/4WS 2.2k Ω	R 605	111-1021-91	1/4WS 1k Ω
IC 502	051-0160-01	HD74LS07P	R 115	116-2221-10	1/8W 2.2k Ω	R 606	111-1091-91	1/4WS 1 Ω
IC 701	051-5008-00	M62419FP	R 116	117-1231-10	1/10W 12k Ω	R 607	111-1091-91	1/4WS 1 Ω
IC 801	051-2009-00	TDA8561Q	R 117	111-2711-91	1/4WS 270 Ω	R 608	111-4711-81	1/2WS 470 Ω
IC 802	051-2009-00	TDA8561Q	R 118	111-3311-91	1/4WS 330 Ω	R 609	111-1091-91	1/4WS 1 Ω
L 101	010-9000-05	5.6 μ H	R 201	117-1031-10	1/10W 10k Ω	R 610	111-1091-91	1/4WS 1 Ω
L 102	010-9000-05	5.6 μ H	R 202	117-1031-10	1/10W 10k Ω	R 611	111-4711-81	1/2WS 470 Ω
L 201	010-9000-01	120 μ H	R 203	117-2221-10	1/10W 2.2k Ω	R 612	117-1041-10	1/10W 100k Ω
L 501	010-9000-01	120 μ H	R 204	117-3331-10	1/10W 33k Ω	R 613	117-1041-10	1/10W 100k Ω
L 502	010-9000-01	120 μ H	R 205	117-3321-10	1/10W 3.3k Ω	R 614	111-5611-81	1/2WS 560 Ω
L 601	010-9000-01	120 μ H	R 206	117-2231-10	1/10W 22k Ω	R 615	111-1031-91	1/4WS 10k Ω
L 801	009-9006-50		R 207	117-1031-10	1/10W 10k Ω	R 616	117-1031-10	1/10W 10k Ω
Q 101	108-0669-00	2SK669	R 208	117-1231-10	1/10W 12k Ω	R 617	111-1591-91	1/4WS 1.5 Ω
Q 102	100-1548-00	2SA1548	R 209	117-3331-10	1/10W 33k Ω	R 618	111-1591-91	1/4WS 1.5 Ω
Q 103	100-1548-00	2SA1548	R 210	117-1021-10	1/10W 1k Ω	R 619	111-1591-91	1/4WS 1.5 Ω
Q 201	125-0003-02	RN2202	R 211	117-2241-10	1/10W 220k Ω	R 620	111-1591-91	1/4WS 1.5 Ω
Q 202	103-1450-00	2SD1450	R 212	117-1041-10	1/10W 100k Ω	R 621	117-1031-10	1/10W 10k Ω
Q 203	125-0003-02	RN2202	R 213	117-2221-10	1/10W 2.2k Ω	R 622	111-2221-91	1/4WS 2.2k Ω
Q 204	125-2003-02	RN1202	R 214	117-1021-10	1/10W 1k Ω	R 623	111-1031-91	1/4WS 10k Ω
Q 205	125-2003-02	RN1202	R 215	117-1021-10	1/10W 1k Ω	R 624	111-1221-91	1/4WS 1.2k Ω
Q 301	101-1243-00	2SB1243	R 216	117-1021-10	1/10W 1k Ω	R 625	117-4721-10	1/10W 4.7k Ω
Q 302	125-2003-06	RN1206	R 217	117-1021-10	1/10W 1k Ω	R 626	116-2231-10	1/8W 22k Ω
Q 303	101-1243-00	2SB1243	R 218	117-1031-10	1/10W 10k Ω	R 627	111-5611-81	1/2WS 560 Ω
Q 304	125-2003-06	RN1206	R 219	117-1031-10	1/10W 10k Ω	R 628	111-1031-91	1/4WS 10k Ω
Q 501	125-0003-02	RN2202	R 220	117-1031-10	1/10W 10k Ω	R 629	117-1531-10	1/10W 15k Ω
Q 502	102-2458-51	2SC2458GR,BL	R 301	111-6811-81	1/2WS 680 Ω	R 630	111-4711-81	1/2WS 470 Ω
Q 503	102-2458-51	2SC2458GR,BL	R 302	111-1031-91	1/4WS 10k Ω	R 631	111-2231-91	1/4WS 22k Ω
Q 504	125-2003-02	RN1202	R 303	114-2291-11	1W 2.2 Ω	R 632	111-2231-91	1/4WS 22k Ω
Q 505	125-2003-02	RN1202	R 304	111-2221-91	1/4WS 2.2k Ω	R 633	117-1041-10	1/10W 100k Ω
Q 601	101-1237-00	2SB1237	R 305	111-6811-81	1/2WS 680 Ω	R 701	117-4731-10	1/10W 47k Ω
Q 602	102-1846-50	2SC1846R,S	R 306	111-1031-91	1/4WS 10k Ω	R 702	117-6831-10	1/10W 68k Ω
Q 603	103-1858-00	2SD1858	R 307	117-1031-10	1/10W 10k Ω	R 703	117-6821-10	1/10W 6.8k Ω
Q 604	103-1858-00	2SD1858	R 401	117-1831-10	1/10W 18k Ω	R 704	117-1231-10	1/10W 12k Ω
Q 605	103-1858-00	2SD1858	R 402	116-2231-10	1/8W 22k Ω	R 705	117-1531-10	1/10W 15k Ω
Q 606	103-1858-00	2SD1858	R 501	111-2221-91	1/4WS 2.2k Ω	R 706	117-2431-10	1/10W 24k Ω
Q 607	125-0003-02	RN2202	R 502	111-2221-91	1/4WS 2.2k Ω	R 707	117-6821-10	1/10W 6.8k Ω
Q 608	102-2458-51	2SC2458GR,BL	R 503	117-4721-10	1/10W 4.7k Ω	R 708	117-4731-10	1/10W 47k Ω
Q 609	101-1243-00	2SB1243	R 504	117-5621-10	1/10W 5.6k Ω	R 709	117-6831-10	1/10W 68k Ω
Q 610	125-2003-02	RN1202	R 505	117-1031-10	1/10W 10k Ω	R 710	117-6821-10	1/10W 6.8k Ω
Q 611	100-1048-00	2SA1048	R 506	117-1031-10	1/10W 10k Ω	R 711	117-1231-10	1/10W 12k Ω
Q 612	101-1237-00	2SB1237	R 507	117-1021-10	1/10W 1k Ω	R 712	117-1531-10	1/10W 15k Ω
Q 613	125-2003-02	RN1202	R 508	117-1031-10	1/10W 10k Ω	R 713	117-2431-10	1/10W 24k Ω
Q 614	125-2003-02	RN1202	R 509	117-1031-10	1/10W 10k Ω	R 714	117-6821-10	1/10W 6.8k Ω
Q 615	125-2003-02	RN1202	R 510	117-1031-10	1/10W 10k Ω	R 715	111-3311-91	1/4WS 330 Ω
Q 616	101-1243-00	2SB1243	R 511	117-1031-10	1/10W 10k Ω	R 801	117-3321-10	1/10W 3.3k Ω
Q 617	125-2003-02	RN1202	R 512	111-1031-91	1/4WS 10k Ω	R 802	117-4721-10	1/10W 4.7k Ω
Q 618	125-2003-02	RN1202	R 513	117-1031-10	1/10W 10k Ω	R 803	117-4721-10	1/10W 4.7k Ω
Q 619	125-0003-02	RN2202	R 514	117-1031-10	1/10W 10k Ω	R 804	117-4721-10	1/10W 4.7k Ω
Q 801	103-1450-00	2SD1450	R 515	117-1031-10	1/10W 10k Ω	R 805	117-4721-10	1/10W 4.7k Ω
Q 802	103-1450-00	2SD1450	R 516	117-4731-10	1/10W 47k Ω	R 806	117-3311-10	1/10W 330 Ω
Q 803	103-1450-00	2SD1450	R 517	117-2231-10	1/10W 22k Ω	R 807	117-1031-10	1/10W 10k Ω
Q 804	103-1450-00	2SD1450	R 518	117-4731-10	1/10W 47k Ω	R 808	117-3311-10	1/10W 330 Ω
Q 805	125-2003-02	RN1202	R 519	117-2231-10	1/10W 22k Ω	R 809	117-1031-10	1/10W 10k Ω
Q 806	125-0003-02	RN2202	R 520	117-1031-10	1/10W 10k Ω	R 810	117-5621-10	1/10W 5.6k Ω
R 101	117-5631-10	1/10W 56k Ω	R 521	117-1021-10	1/10W 1k Ω	R 811	117-5621-10	1/10W 5.6k Ω
R 102	117-1831-10	1/10W 18k Ω	R 522	116-1021-10	1/8W 1k Ω	R 812	117-1031-10	1/10W 10k Ω
R 103	117-1021-10	1/10W 1k Ω	R 523	117-1021-10	1/10W 1k Ω	R 813	117-1031-10	1/10W 10k Ω
R 104	117-5631-10	1/10W 56k Ω	R 524	117-1021-10	1/10W 1k Ω	R 814	117-3311-10	1/10W 330 Ω
R 105	117-1231-10	1/10W 12k Ω	R 525	117-1021-10	1/10W 1k Ω	R 815	117-3311-10	1/10W 330 Ω
R 106	117-1021-10	1/10W 1k Ω	R 526	117-1021-10	1/10W 1k Ω	R 816	117-5621-10	1/10W 5.6k Ω
R 107	117-2231-10	1/10W 22k Ω	R 527	117-1021-10	1/10W 1k Ω	R 817	117-5621-10	1/10W 5.6k Ω
R 108	117-4721-10	1/10W 4.7k Ω	R 528	111-1001-91	1/4WS 10 Ω	VR 401	012-9000-18	10k Ω
R 109	117-2211-10	1/10W 220 Ω	R 529	117-1021-10	1/10W 1k Ω	VR 402	012-9000-18	10k Ω
R 110	117-1031-10	1/10W 10k Ω	R 530	111-4711-81	1/2WS 470 Ω	X 201	061-9001-50	4.332MHz
R 111	116-2221-10	1/8W 2.2k Ω	R 601	111-1021-91	1/4WS 1k Ω	X 202	061-9002-50	7.2MHz
R 112	111-1031-91	1/4WS 10k Ω	R 602	111-1031-91	1/4WS 10k Ω	X 501	060-1023-00	CST4.5MGW
R 113	111-1031-91	1/4WS 10k Ω	R 603	117-2231-10	1/10W 22k Ω			
			R 604	117-1231-10	1/10W 12k Ω			

CIRCUIT DIAGRAM

SW PWB section

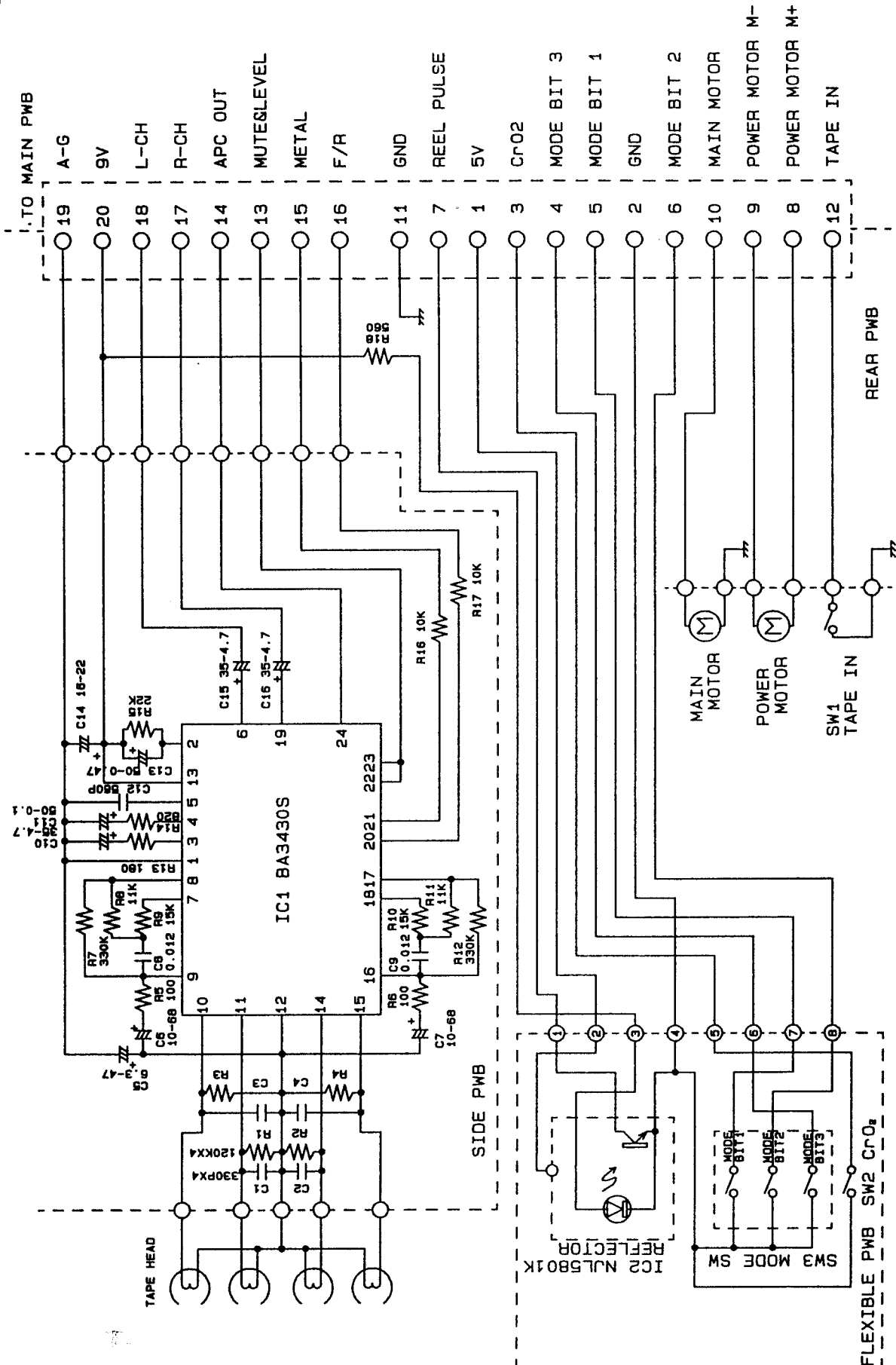


SW PWB section



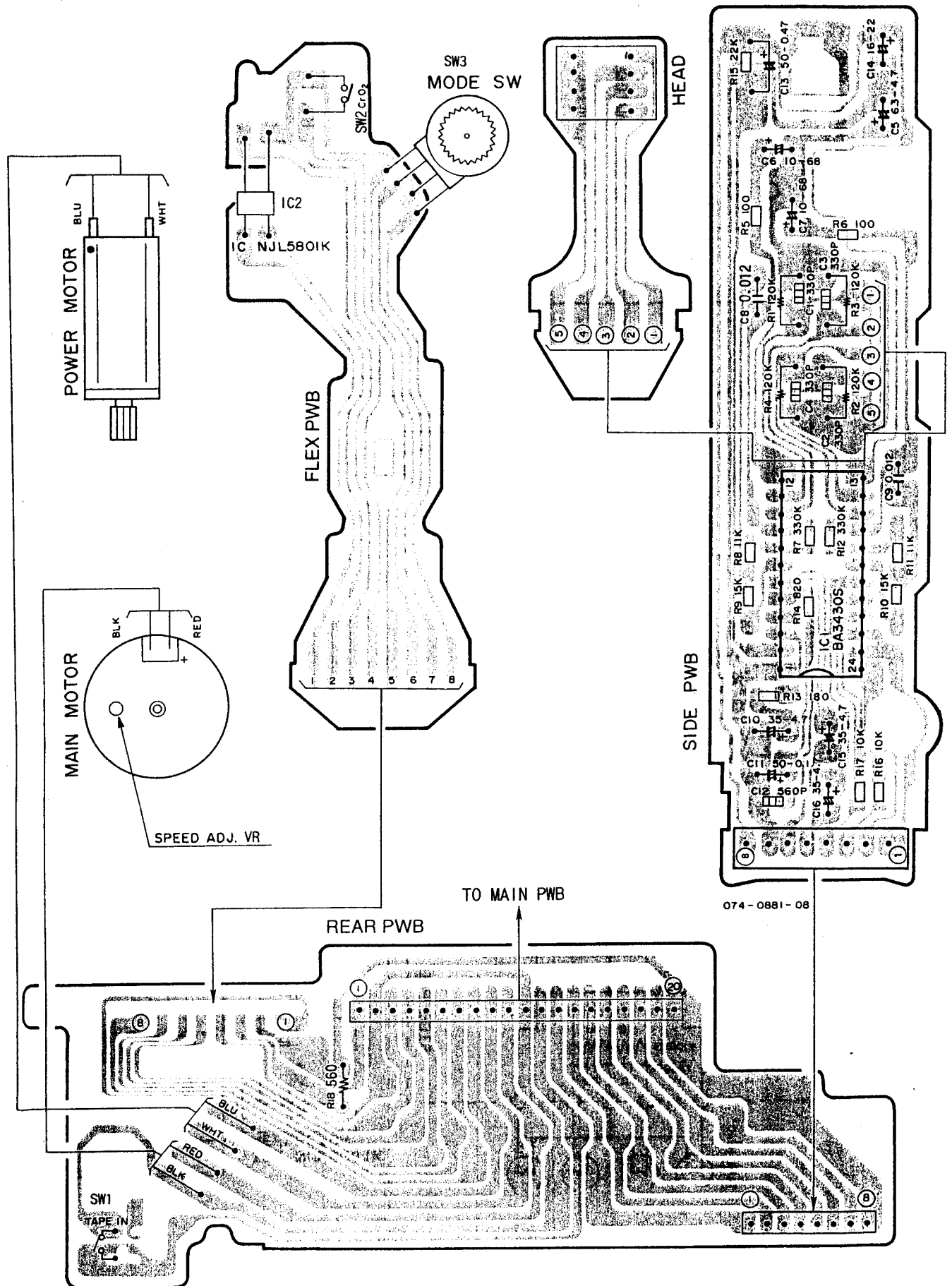
CIRCUIT DIAGRAM

Tape mechanism section

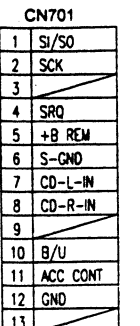


■ PRINTED WIRING BOARD

Tape mechanism section



Main / Connector PWB section



Main / Connector PWB section

